Yagi-Uda Antenna Array

Concise Report

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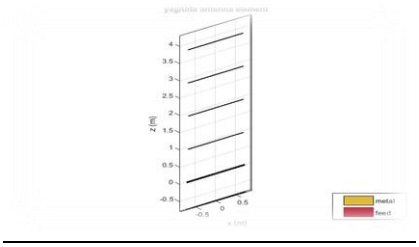
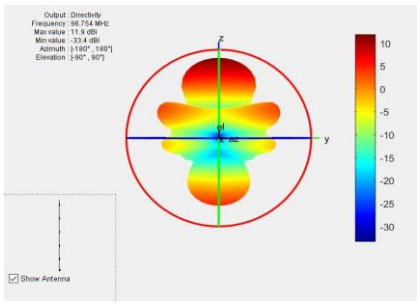
Index No : 180529E

1. Folded HW dipole with Reflectors and Directors (Preliminary Observations)

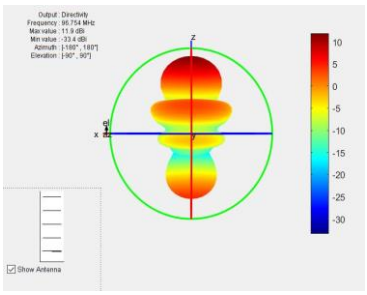


Output : Directivity
Frequency : 96.754 MHz
Max value : 11.9 dBi
Min value : -33.4 dBi
Azimuth : [-180° , 180°]
Elevation : [-90° , 90°]

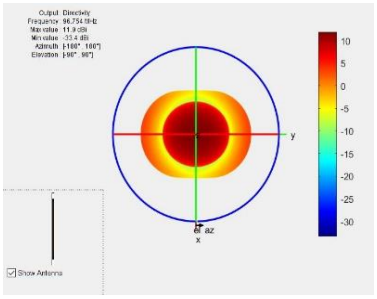
View from X axis



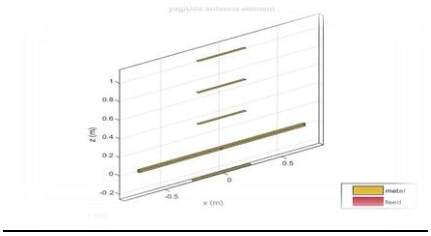
View from Y axis



View from Z axis

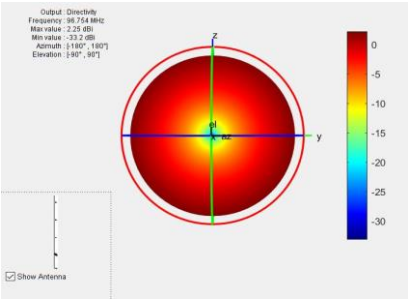


2. Folded HW dipole without Reflectors and Directors

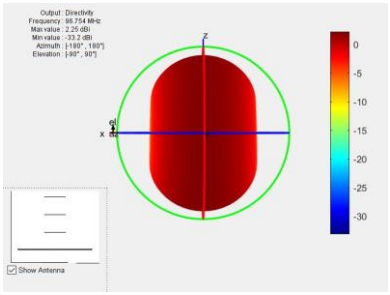


Output : Directivity
Frequency : 96.754 MHz
Max value : 2.25 dBi
Min value : -33.2 dBi
Azimuth : [-180° , 180°]
Elevation : [-90° , 90°]

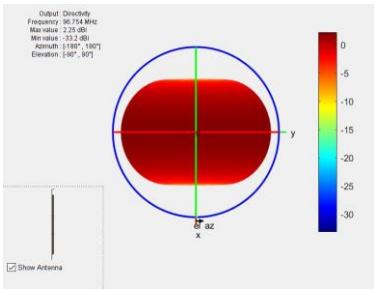
View from X axis



View from Y axis

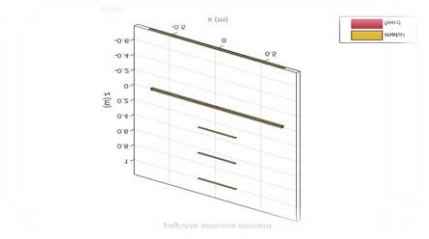


View from Z axi



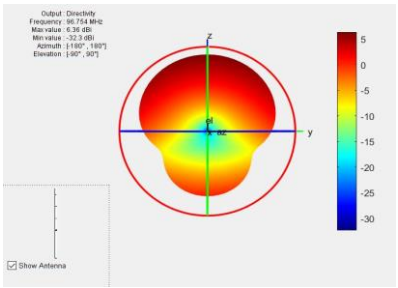
3. Folded HW dipole with Reflectors and without Directors

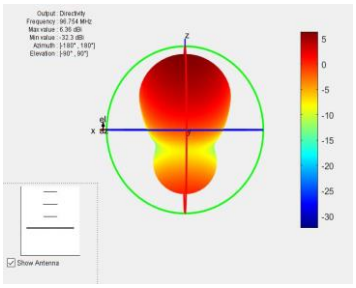
Resultant antenna

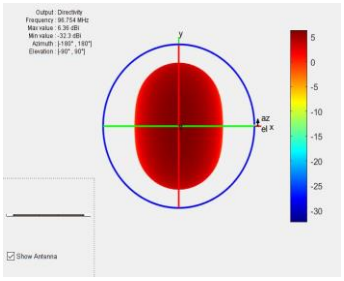


Output : Directivity
Frequency : 96.754 MHz
Max value : 6.36 dBi
Min value : -32.3 dBi
Azimuth : [-180° , 180°]
Elevation : [-90° , 90°]

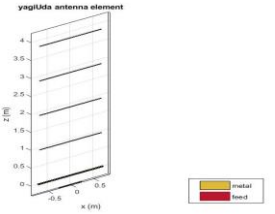
View from X axis | View from Y axis | View from Z axis

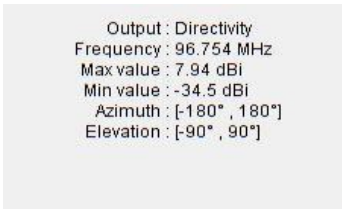




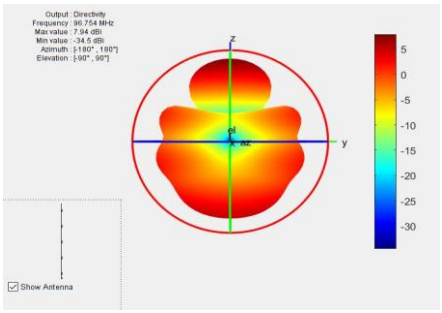


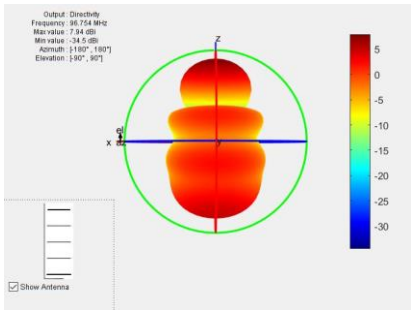
4. Folded HW dipole without Reflectors and with Directors

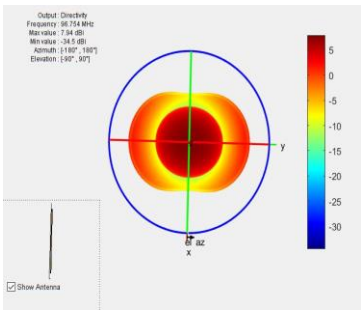




View from X axis | View from Y axis | View from Z axis







Operating Frequency = 96.754 MHz

	1	2	3	4
Radiation Pattern	XY plane - Asymmetric YZ plane – Symmetric ZX plane - Symmetric	XY plane – Symmetric YZ plane – Symmetric ZX plane - Symmetric	XY plane – Asymmetric YZ plane – Symmetric ZX plane - Symmetric	XY plane – Asymmetric YZ plane – Symmetric ZX plane - Symmetric
Shape	Completely different from donut shape	Donut Shape	Slightly different from donut shape	Slightly different from donut shape
Radiation Behaviour	The radiation get reflected away from the reflector and concentrated around the Directors.	Symmetrical Distribution of Radiations around the HW.	Radiations get accumulated to the opposite side of the reflector.	Radiations are directed to a one direction through directors.
Maximum Gain	11.9 dBi	2.25 dBi	6.36 dBi	7.94 dBi
Minimum Gain	-33.4 dBi	-33.2 dBi	-32.3 dBi	-34.5 dBi